

## CLAIMS

We claim:

1. A method for managing changes in a computer system comprising the steps of:  
selecting processes on the computer system in accordance with input specifications,  
detecting changes made by the selected processes to data items, and  
storing the detected changes as records in a database.
2. The method of claim 1 further comprising the step of limiting the detection of  
changes to only data items matching specified criteria.
3. The method of claim 1 further comprising the step of selecting change records from  
the database pursuant to specified criteria.
  4. The method of claim 3 further comprising the step of producing the selected  
change records in a specified output format.
  5. The method of claim 3 further comprising the steps of:  
determining the reverse of the changes stored in the selected change records,  
and  
applying the reverse of the selected change records to the data items referred to  
by the selected change records in order to return the data items to their state  
prior to the occurrence of the changes stored in the selected change records.
  6. The method of claim 3 further comprising the step of applying the changes stored  
in the selected change records to similar data items on a different computer system  
to cause the same changes on the different computer system.
7. The method of claim 1 further comprising the step of storing the reverse of the  
detected changes as change records in the database.
  8. The method of claim 7 further comprising the steps of:  
selecting change records from the database pursuant to specified criteria,  
applying the reverse of the selected change records to the data items referred  
to by the selected change records in order to return the data items to their  
state prior to the occurrence of the changes stored in the selected change  
records.

9. The method of claim 1 further comprising the steps of:  
condensing sequences of change records to eliminate intermediate changes, and  
storing the condensed sequences in the database.
10. The method of claim 1 further comprising the step of adding a user-specified field to a change record in the database.
11. The method of claim 1 further comprising the step of terminating the detection of changes upon the occurrence of any of (i) user request, (ii) the satisfaction of conditions specified by the user, or (iii) termination of all selected processes.
12. The method of claim 1, further comprising the step of detecting links from a data item to other data items.
13. The method of claim 1, further comprising the step of detecting changes made by one or more of the selected processes to a first data item resulting from changes to a second data item linked to the first data item.
14. The method of claim 1 further comprising the step of alerting a user when changes matching specified criteria are detected.
15. The method of claim 1 further comprising the step of transmitting information about the detected changes to a specified destination.
16. The method of claim 1 further comprising the steps of:  
detecting changes to data items on a remote computer system by selected processes on the computer system prior to storing the changes as change records in the database,  
recording the identity of the remote computer system in the database, and  
associating the identity of the remote computer system with the change in the stored change record.
17. The method of claim 1 further comprising the step of detecting communication attempts by the selected processes.
18. The method of claim 17 further comprising the steps of:  
determining any processes that are the destination of the communication attempts,  
detecting changes made by the destination processes to data items, and

storing the detected changes as change records in the database.

19. The method of claim 17 further comprising the steps of:
  - detecting that the communication attempts are to processes on a remote computer system,
  - determining any processes on the remote computer system that are the destination of the communication attempts,
  - detecting changes made by the destination processes to data items, and
  - storing the detected changes as change records in the database.
20. The method of claim 1 further comprising the steps of:
  - recording selected processes or detected changes in a session history, and
  - storing the session history as a session record in the database.
21. The method of claim 20 further comprising the steps of:
  - searching the database for any session records matching specified criteria,
  - selecting change records referred to by the matching session records, and
  - producing the selected change records in a specified output format.
22. The method of claim 20 further comprising the steps of:
  - condensing sequences of change records in the session history to eliminate intermediate changes, and
  - storing the condensed session history as a session record in the database.
23. The method of claim 20 further comprising the step of adding a user-specified field to the session record.
24. The method of claim 20 further comprising the step of adding additional processes to an existing session history.
25. The method of claim 20 further comprising the step of terminating the session history upon the occurrence of any of (i) user request, (ii) the satisfaction of conditions specified by the user, or (iii) termination of all selected processes.
26. The method of claim 20 further comprising the step of alerting a user when a session history matching specified criteria is detected.
27. The method of claim 20 further comprising the step of transmitting information about the session history to a specified destination.

28. The method of claim 20 further comprising the steps of:  
detecting changes within the session history to data items on a remote computer system,  
recording the identity of the remote computer system in the database, and  
associating the session history with the identity of the remote computer system in the database.
29. The method of claim 20 further comprising the step of detecting communication attempts by the selected processes.
30. The method of claim 29 further comprising the steps of  
determining any processes that are the destination of the communication attempts,  
detecting changes made by the destination processes to data items,  
recording the detected changes in a session history, and  
storing the session history as a session record in the database.
31. The method of claim 29 further comprising the steps of  
detecting that the communication attempts are to processes on a remote computer system,  
determining any processes on the remote computer system that are the destination of the communication attempts,  
detecting changes made by the destination processes to data items,  
recording the detected changes in a session history, and  
storing the session history as a session record in the database.
32. A computer program product for managing changes in a computer system, comprising a computer program encoded on a computer-readable media and executable on a computer to:  
select processes on the computer system in accordance with input specifications,  
detect changes made by the selected processes to data items, and  
store the detected changes as change records in a database.
33. The computer program product of claim 32 wherein said computer program limits the detection of changes to only data items matching specified criteria.
34. The computer program product of claim 32 wherein said computer program selects change records from the database pursuant to specified criteria.

35. The computer program product of claim 34 wherein said computer program provides the selected change records in a specified output format.
36. The computer program product of claim 34 wherein said computer program:  
determines the reverse of the changes stored in the selected change records, and  
applies the reverse of the selected change records to the data items referred to by  
the selected change records in order to return the data items to their state prior  
to the occurrence of the selected change records.
37. The computer program product of claim 35 wherein said computer program  
applies the selected change records to similar data items on a different computer  
system to cause the same changes on the different computer system.
38. The computer program product of claim 32 wherein said computer program stores  
the reverse of the detected changes as change records in the database.
39. The computer program product of claim 38 wherein said computer program:  
selects specified change records from the database pursuant to specified  
criteria,  
applies the reverse of the selected change records to the data items referred  
to by the selected change records in order to return the data items to their  
state prior to the occurrence of the selected change records.
40. The computer program product of claim 32 wherein said computer program:  
condenses sequences of change records to eliminate intermediate changes, and  
stores the condensed sequences in the database.
41. The computer program product of claim 32 wherein said computer program adds a  
user-specified field to a change record in the database.
42. The computer program product of claim 32 wherein said computer program  
terminates the detection of changes upon the occurrence of any of (i) user request, (ii)  
the satisfaction of conditions specified by the user, or (iii) termination of all selected  
processes.
43. The computer program product of claim 32, wherein said computer program detects  
links from a data item to other data items.

45. The computer program product of claim 32, wherein said computer program detects changes made by one or more of the selected processes to a first data item resulting from changes to a second data item linked to the first data item.

46. The computer program product of claim 32 wherein said computer program alerts a user when changes matching specified criteria are detected.

47. The computer program product of claim 32 wherein said computer program transmits information about the detected changes to a specified destination.

48. The computer program product of claim 32 wherein said computer program detects changes to data items on a remote computer system by selected processes on the computer system prior to storing the changes in the database, records the identity of the remote computer system in the database, and associates the identity of the remote computer system with the change in the stored change record.

49. The computer program product of claim 32 wherein said computer program detects communication attempts by the selected processes.

50. The computer program product of claim 49 wherein said computer program determines any processes that are the destination of the communication attempts, detects changes made by the destination processes to data items, and stores the detected changes as change records in the database.

51. The computer program product of claim 49 wherein said computer program detects that the communication attempts are to processes on a remote computer system, determines any processes on the remote computer system that are the destination of the communication attempts, detects changes made by the destination processes to data items, and stores the detected changes as change records in the database.

52. The computer program product of claim 32 wherein said computer program records specified changes in a session history, and stores the session history as a session record in the database.

53. The computer program product of claim 52 wherein said computer program:

searches the database for any session records matching specified criteria, selects change records referred to by the matching session records, and produces the selected change records in a specified output format.

54. The computer program product of claim 52 wherein said computer program:  
condenses sequences of changes in the session history to eliminate intermediate changes, and  
stores the condensed session history as a session in the database.

55. The computer program product of claim 52 wherein said computer program adds a user-specified field to the session history.

56. The computer program product of claim 52 wherein said computer program adds additional processes to an existing session history.

57. The computer program product of claim 52 wherein said computer program terminates the session history upon the occurrence of any of (i) user request, (ii) the satisfaction of conditions specified by the user, or (iii) termination of all selected processes.

58. The computer program product of claim 52 wherein said computer program alerts a user when a session history matching specified criteria is detected.

59. The computer program product of claim 52 wherein said computer program transmits information about the session history to a specified destination.

60. The computer program product of claim 52 wherein said computer program detects changes in the session history to data items on a remote computer system prior to storing the session record in the database, records the identity of the remote computer system in the database, and associates the identity of the remote computer system with the session record in the searchable database,

61. The computer program product of claim 52 wherein said computer program detects communication attempts by the selected processes.

62. The computer program product of claim 61 wherein said computer program determines any processes that are the destination of the communication attempts,

detects changes made by the destination processes to data items,  
records the detected changes in a session history, and  
stores the session history as a session in the searchable database.

63. The computer program product of claim 61 wherein said computer program detects that the communication attempts are to processes on a remote computer system,  
determines any processes on the remote computer system that are the destination of the communication attempts,  
detects changes made by the destination processes to data items,  
records the detected changes in a session history, and  
stores the session history as a session in the searchable database.

64. A data structure for facilitating management of changes in a computer system, comprising a database stored on a computer-readable media, the database having a plurality of change records, wherein each change record corresponds to a change to a data item by a process, comprising information that refers to the identity of data item changed, the process or processes effecting the change, and the nature of the change.

65. The data structure of claim 64 in which the change record further comprises information referring to the user initiating a change.

66. The data structure of claim 64 in which the change record further comprises descriptive or identifying information about the change.

67. The data structure of claim 64 in which the database further comprises link records, wherein each link record comprises information that refers to a relationship between data items.

68. The data structure of claim 64 in which the database further comprises session records, wherein each session record comprises information that refers to a plurality of changes in a session history.

69. The data structure of claim 68 in which the session record further comprises information referring to the user initiating the session history.

70. The data structure of claim 68 in which the session record further comprises descriptive or identifying information about the session history.



71. The data structure of claim 68 in which the session record further comprises information generated during the session history whereby the session record contains a count of any of (i) the number of changes detected (ii) the number of processes selected (iii) the number of linked data items changed (iv) the number of remote change sessions initiated.

72. The data structure of claim 68 in which the session record further comprises information with the identity of remote computer systems that were affected by changes in the session history referred to by the session record.

73. The data structure of claim 72 in which the session record further comprises information referring to remote session records on remote computer systems that were affected by changes in the session history referred to by the session record.

74. A computer program product for managing changes in a computer system, comprising a computer program encoded on a computer-readable media and executable on a computer to:

perform searches in a database containing historical information of changes made by processes within the computer system to data items or links to data items, and produce the results of said searches in a specified output format.

75. The computer program product of claim 74 wherein a plurality of changes in the database are recorded in sessions which are stored as session records in the database.

76. The computer program product of claim 75 wherein remote computer systems are associated with session records in the database.